

**REMARKS**

In the Office Action<sup>1</sup>, the Examiner rejected claims 21-26 under 35 U.S.C. § 102(e) as being anticipated by Ikeda et al. (U.S. Patent No. 6,671,025, hereafter "Ikeda"); rejected claims 33, 35, and 37-39 under 35 U.S.C. § 102(b) as being anticipated by Shimizu et al. (U.S. Patent Application Publication No. 2002/0075443, hereafter "Shimizu"); rejected claims 34 and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Miyachi et al. (U.S. Patent No. 6,211,937, hereafter "Miyachi"); and rejected claim 40 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Sawasaki et al. (U.S. Patent Application Publication No. 2001/0026347, hereafter "Sawasaki").

By this Amendment, Applicant amends claims 21 and 33 to more appropriately define the invention, cancels claims 25-26, 37, and 40 without prejudice or disclaimer, and adds new claims 41 and 42 to protect other aspects of the invention. Amended claims 21 and 33 are fully supported by the specification at, for example, page 6, lines 19-24. Newly added claims 41 and 42 are fully supported by the specification at, for example, page 7, lines 4-6. Claims 21-24, 27-36, 38, 39, 41, and 42 remain pending with claims 27-32 withdrawn from consideration.

**I. Rejection of Claims 21-26 under 35 U.S.C. § 102(b):**

Applicant respectfully traverses the rejection of claims 21-26 under 35 U.S.C. § 102(e) as being anticipated by Ikeda. In order to properly establish that Ikeda anticipates Applicant's claimed invention under 35 U.S.C. § 102, each and every

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

element of the claim in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Claim 21, as amended, recites a liquid crystal display panel comprising, for example:

a plurality of first protrusions ...;

a plurality of second protrusions ...; and

a plurality of third protrusions ...;

wherein the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material.

(Emphasis added). Ikeda fails to teach at least these elements of claim 21.

Ikeda discloses, in column 14, lines 61-65, “as shown in FIG. 15E, the projection pattern 55 is formed by coating photosensitive resin on the opposing electrode 54,” (emphasis added). Ikeda further discloses, in column 7, lines 14-15, “[t]he projection pattern 35 is formed of insulating resin to have a height of about 1.5 μm,” (emphasis added). It appears the Examiner asserts that Applicant’s claimed first and second protrusions correspond to pattern 55 of Ikeda. It is not clear what, if any feature of Ikeda would correspond to Applicant’s claimed third protrusions. However, assuming, arguendo, that Ikeda’s pattern 35 corresponds to the claimed third protrusions, then Ikeda discloses that the material allegedly corresponding to Applicant’s claimed first, second, and third protrusions are all formed of resin. Further, Ikeda does not disclose

any hardness information about these resins. Therefore, Ikeda is silent as to the teaching of “the first material being harder than the second material,” as recited in claim 21. Accordingly, Ikeda can not anticipate claim 21, because Ikeda fails to teach each and every element of claim 21. Claim 21 is therefore allowable. Claims 22-24 depend from claim 21, and are also allowable at least due to their dependence from claim 21. The rejection of claims 25 and 26 as anticipated by Ikeda is rendered moot by the cancellation of those claims.

## **II. Rejection of Claims 33, 35, and 37-39 under 35 U.S.C. § 102(b):**

Applicant respectfully traverses the rejection of claims 33, 35, 37-39 under 35 U.S.C. § 102(b) as being anticipated by Shimizu, because Shimizu fails to teach each and every element of independent claim 33.

Claim 33, which has been amended to include all the limitations of canceled claim 40, recites a liquid crystal display panel comprising, for example:

a plurality of first protrusions ...;

a plurality of second protrusions ...; and

a plurality of third protrusions disposed on at least one of the first and second substrates for regulating orientation of the liquid crystal layer;

wherein the first and second protrusions are made of a first material and the third protrusions are made of a second material, the first material being harder than the second material.

(Emphasis added). Shimizu fails to teach at least these elements of claim 33.

The Examiner acknowledges, in a discussion pertaining to the canceled claim 40, “Shimizu et al. ... fail to disclose that a plurality of third protrusions being disposed on at least one of the first and second substrates for regulating orientation of the liquid crystal

layer.” Accordingly, Shimizu can not anticipate claim 33, because Shimizu fails to teach each and every element of claim 33.

The rejection of claim 33 under 35 U.S.C. § 102(b) as being anticipated by Shimizu is thus improper and should be withdrawn. The rejection of claims 35 and 37-39, which depend from claim 33, under 35 U.S.C. § 102(b) is also improper and should also be withdrawn.

Further, the Examiner asserts, “Shimizu et al. disclose in Figure 6 a liquid crystal display panel, comprising: ...; a plurality of first protrusions (element 1b) ...; and a plurality of second protrusions (element 1c) ...,” Office Action at pages 5-6. In addition, the Examiner asserts, in rejecting the canceled claim 40, “Sawasaki et al. disclose in Figure 48 a liquid crystal display device comprising a plurality of third protrusions (element 246a) in addition to a plurality of first protrusions and a plurality of second protrusions,” Office Action at page 8. Applicant respectfully disagrees.

Shimizu discloses in paragraph [0087] that “[t]he spacer 1c is formed by patterning a resin layer which has approximately the same film thickness as the spacer 1b,” (emphasis added). Sawasaki discloses in paragraph [0286] that “the resist is exposed and developed such that the resist is left in a predetermined pattern (pattern of the projections 246a and pattern of the spacers 251),” (emphasis added). The Examiner appears to assert that spacers 1b and 1c of Shimizu respectively correspond to Applicant’s claimed first and second protrusions, and that Sawasaki’s projections 246a correspond to Applicant’s claimed third protrusions. Accordingly, the first protrusions, the second protrusions, and the third protrusions, as characterized by the Examiner, are all made of resin, and there is no disclosure or suggestion in the applied

references of “the first and second protrusions [being] made of a first material and the third protrusions [being] made of a second material, the first material being harder than the second material,” as recited in the amended claim 33.

Therefore, for this reason also, claim 33 is allowable. Claims 35 and 38-39 depend from claim 33, and are also allowable at least due to their dependence from claim 33.

### **III. Rejection of Claims 34 and 36 under 35 U.S.C. § 103(a):**

Applicant respectfully traverses the rejection of claims 34 and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Miyachi. A *prima facie* case of obviousness has not been established.

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. In *re* Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).” M.P.E.P. § 2142, 8th Ed., Rev. 2 (May 2004), p. 2100-128.

A *prima facie* case of obviousness has not been established because, among other things, neither Shimizu, nor Miyachi, nor their combination, teaches or suggests each and every element of claims 34 and 36.

As discussed above, Shimizu fails to teach or suggest “a third plurality of protrusions disposed on at least one of the first and second substrates for regulating orientation of the liquid crystal layer,” as recited in the amended claim 33. Accordingly,

Shimizu also fails to teach each and every element of claims 34 and 36, at least due to their dependence from claim 33.

The Examiner cited Miyachi against claim 34 as a teaching of “protrusions ... contacting the TFT devices,” Office Action at page 7. The Examiner further cited Miyachi against claim 36 as a teaching of “the [predetermined] distance ... is in the range of 1.0  $\mu\text{m}$  to 2.0  $\mu\text{m}$ ,” Office Action at page 8. Even assuming the Examiner’s characterization of Miyachi is correct, Miyachi still fails to cure the deficiencies of Shimizu, discussed above. That is, Miyachi also fails to teach or suggest “a third plurality of protrusions disposed on at least one of the first and second substrates for regulating orientation of the liquid crystal layer,” as recited in claim 33. For at least this reason, Shimizu and Miyachi fail to establish a *prima facie* case of obviousness with respect to claims 34 and 36 which depend from claim 33. Accordingly, the rejection of claims 34 and 36 under 35 U.S.C. §103(a) is improper and should be withdrawn. Claims 34 and 36 are allowable.

#### **IV. Rejection of Claim 40 under 35 U.S.C. § 103(a):**

Applicant respectfully traverses the rejection of claim 40 under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Sawasaki. Applicant has canceled claim 40. Accordingly, the rejection of claim 40 under 35 U.S.C. § 103(a) is rendered moot.

#### **V. New Claims 41-42:**

As discussed above, independent claims 21 and 33 are allowable. Newly added claims 41 and 42 respectively depend from claims 21 and 33. Accordingly, claims 41

and 42 are also allowable at least due to their respective dependence from allowable claims 21 and 33.

**VI. Conclusion:**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of claims 21-24, 33-36, 38, 39, 41, and 42.

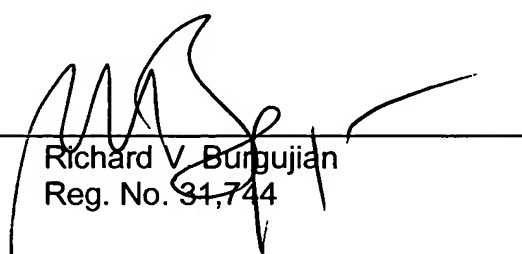
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: \_\_\_\_\_

  
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